



The Emily manganese deposit Fact sheet on the project As of May 2009

What is happening

- One of the largest known high-grade deposits of manganese in North America is located on a small, privately owned site in Emily, Minn.
 - All the manganese currently used in the U.S. is imported.
- Manganese is a very valuable mineral that historically has been used in the steelmaking industry. Today it is an important part of potentially environmentally friendly technologies including power plant emissions reduction, air and water pollution abatement, water purification, and rechargeable batteries.
- Cooperative Mineral Resources, a subsidiary of Crow Wing Power, purchased the site containing the manganese deposit and is working to develop the best extraction plan.
 - Foreign investors wanted to purchase the site. That's why Crow Wing Power stepped in to protect local interests.
- The extraction plan will undergo rigorous state environmental reviews and public comments.

Proven extraction process

- Cooperative Mineral Resources is planning to use a proven technology known as borehole extraction, the most environmentally friendly technique in existence today, to extract the manganese.
- This would be the first project in Minnesota to use borehole extraction.
- This process involves drilling holes and using pressurized water to recover the manganese.
 - High-pressure water is injected into small wells on the site to create a slurry – a mixture of water and ore material.
 - The mineral slurry is pumped to the surface and filtered.
 - Water will be filtered to the maximum extent possible and recycled back to the borehole tool for reuse.
 - Mineral filter cake (the solid substance) is shipped to an off-site Minnesota laboratory for testing and processing.

Benefits of this process

- It involves no chemicals, no major excavation, and no open pits.
 - It utilizes existing groundwater resources and recycles the water for reuse. On average, the project will use less than 40 gallons of existing groundwater per minute, compared to:
 - A typical 10-acre farm in Minnesota that uses 44-67 gallons per minute for irrigation purposes alone. (Source: Minnesota Extension Service, University of Minnesota.)
 - A cluster of 16 homes that averages 40 gallons per minute (excluding lawn watering).
 - State and federal agencies will closely monitor the project and water usage.
 - No wetlands will be impacted, and no groundwater will be contaminated.
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What's happening now – the testing and demonstration phase

- Cooperative Mineral Resources is working closely with state and federal regulators on the project plan including the Environmental Protection Agency (EPA), the Minnesota Pollution Control Agency (MPCA), the Department of Natural Resources (DNR) and the Department of Health.
- Geologists and hydrologists will conduct tests as part of an environmental review to develop more information related to groundwater protection on and around the site.
- A small-scale demonstration project will then be conducted on the site.
 - The goal is to assess and refine the extraction technology and process, help ensure that the highest environmental standards are met, and determine the viability of a commercial operation.
- If the demonstration project is successful, commercial extraction could start in about two years.

Benefits to Emily and the region

- Foreign investors wanted to buy the site and mine the manganese. Crow Wing Power protected this opportunity for Minnesota and has made sure Emily and the surrounding community benefit from this Minnesota natural resource.
- Crow Wing Power is a nonprofit company that is committed to using Minnesota companies to complete the project.
- Crow Wing Power members and the local community will directly share in the project's proceeds.
- Crow Wing will make sure this project meets the highest possible standards, because the company is part of this community
- The project creates important new tax revenue (estimated between \$20 and \$25 million) for Emily, Crow Wing County, the local school district, and the state of Minnesota.
- Upon completion of the project, Crow Wing Power will restore the site and turn it into a park for Emily.

For more information

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